REMARKS

Claims 1-15 are pending. Claims 1-12 have been withdrawn, without prejudice or disclaimer. Claims 13-15 have been examined and rejected under 35 U.S.C. § 103(a). Also, claims 16-25 have been added by this Amendment.

In accordance with the Examiner's request, Applicant affirms the election of claims 13-15 for prosecution in this case, and the withdrawal of claims 1-12, without prejudice or disclaimer.

As a preliminary matter, Applicant has amended the title. However, Applicant submits that the title should not be construed to limit the scope of the claims.

Also, the Examiner has failed to acknowledge the drawings submitted on June 25, 2001. Accordingly, Applicant respectfully requests the Examiner to indicate whether such drawings are acceptable or not in a subsequent Office Action.

The Examiner has objected to the specification due to minor informalities. Accordingly, Applicant has amended the specification, and submits that such amendments overcome the objection.

The Examiner has also objected to claim 13 because "An" should be --A--. Appropriate corrections have been made to claim 13. Applicant submits that such amendment is not made in response to a prior art rejection and does not narrow the scope of the claim.

Applicant has amended Figures 4 and 5 since "5" should be --5'--. Copies of the proposed corrections are being submitted for the Examiner's approval.

Regarding the claim objections, claims 13-15 have been objected to under 37 C.F.R. § 1.75(a) as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner maintains that the recitation of heating the printing plate "during" light irradiation would appear to improperly recite a method of using the apparatus. Therefore, Applicant has amended claim 13 and submits that such amendments overcome the objection. Accordingly, Applicant respectfully requests the Examiner to withdraw the objection.

Turning to the art rejections, claims 13-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2000-062335 to Suda ("Suda"). However, Applicant submits that such claims are patentable over the cited reference. For example, claim 13 recites a planographic printing press having a means for heating an original plate during irradiation of an activation light so that the temperature of the surface of the original plate becomes 40 through 200°C one of as per image and on the entire surface thereof.

The Examiner maintains that Suda suggests the above features. In particular, the Examiner contends that dryer 17 of Suda could heat a printing plate during irradiation by write-in equipment 15 (Fig. 6). However, as stated in paragraph [0049] of Suda, after "hydrophobing" processing liquid is applied to the plate by coating equipment 12, the dryer 17 is activated to dry the "hydrophobing" processing liquid (Fig. 6). Then, after the liquid is dried, a picture is written on the plate by ultraviolet rays emitted by write-in equipment 15 (para. [0049]). Accordingly, Suda fails to disclose that dryer 17 is activated during activation of write-in equipment 15, rather, as disclosed, dryer 17 is activated prior to write-in equipment 15. This fact is further

demonstrated by Fig. 6, which depicts dryer 17 at a location which is distant from or almost opposite of write-in equipment 15 in a rotating direction of drum 11 (Fig. 6).

The reference also fails to suggest that dryer 17 could be activated, or why one skilled in the art would desire activation of dryer 17 during printing, as maintained by the Examiner.

In addition, the reference fails to teach or suggest that dryer 17 heats the surface of the printing plate to 40 through 200°C, as required by claim 13. "[W]hen the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference." *In re Rijckaert*, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993)(*citing In re Yates*, 663 F.2d 1054, 211 USPQ 1149, 1151 (CCPA 1981)). Since the reference makes no hint of heating the printing plate to 40 through 200°C, Applicant submits that no such teaching or suggestion appears in Suda. Further, since dryer 17 is disposed at a distant location from write-in equipment 15 (Fig. 6), the configuration of Suda's printing machine 10 is not conducive to carrying out the above temperature control during light irradiation.

Accordingly, Applicant submits that claim 13 is patentable over the cited reference.

Since claims 14 and 15 are dependent upon claim 13, Applicant submits that such claims are patentable at least by virtue of their dependency.

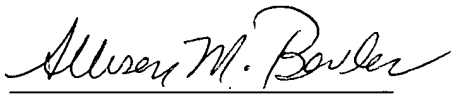
Also, Applicant has added claims 16-25 to provide more varied protection for the present invention.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Allison M. Bowles
Registration No. 48,294

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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PATENT TRADEMARK OFFICE

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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

The title is changed as follows:

[PLANOGRAPHIC PRINTING METHOD, ORIGINAL PRINTING PLATE AND PRINTING PRESS]PLANOGRAPHIC PRINTING PRESS

IN THE SPECIFICATION:

The specification is changed as follows:

Page 19, the third full paragraph is amended as follows:

Hereinafter, a further detailed description is given of embodiments of the invention on the basis of the following sequence. First, a description is given of an original printing plate used for the invention, that is, a photo sensitive layer (so-called an image recording layer) [make]made of a photo catalyst substance that constitutes the original plate, a heat insulating layer that can be provided as necessary, and a substrate that carries the above. Next, a description is given of a plate making and printing method according to the invention, that is, a method for applying a hydrophobic layer onto the entire surface of an original plate, a method for applying heat onto the original plate whose entire surface is made hydrophobic and exposing images, a printing method, and a method for regenerating the printing plate after the printing is completed. Further, a description is given of a printing press according to the invention.

Page 20, the last paragraph beginning on page 20 and ending on page 21 is amended as follows:

In addition, since the above described metal and metal oxide must not be excessively dissolved with respect to a damping solution when being used as [an]a printing plate, the solubility with respect to water is 10mg or less per water of 100 milliliters, preferably 5mg or less, further preferably 1mg or less.

Page 68, the first full paragraph is amended as follows:

Fig. [3]6 is one mode of the hydrophobic processing section 2 that gives a hydrophobic layer of an organic compound, and is structured so that the hydrophobic layer can be provided on the surface of an original printing plate by condensation from an atmosphere containing a vaporized organic compound in an organic compound vapor supplying means 29. That is, in Fig. [3]6, the organic compound vapor supplying means 29 intakes air through its air inlet 24 and leads the air to a vaporizing chamber 26, in which a separatory funnel type glass tube having an inner diameter of 30mm is horizontally arranged, through a cock 25. The vaporizing chamber 26 is filled with an organic compound 27 (shown with diagonal lines) so that the amount thereof becomes, for example, 50% in capacity, and a vaporized gas of the organic compound 27 is taken in by a necessary quantity, while air passes through the inside of the organic compound 27 and on the surface thereof, and it is led onto the surface of the plate cylinder 1.

Page 70, the last full paragraph is amended as follows:

In the embodiment, the hydrophobic processing section 2 accompanies a heating means since it gives a hydrophobic layer by condensation from the gas phase, the hydrophobic processing section 2 incorporates an irradiation temperature controlling mechanism of the activation light irradiating section 5. The upper half section of Fig. [3]6 corresponds to the

irradiation temperature controlling mechanism, and an original plate, onto the surface of which a hydrophobic layer is given, is heated by the electric heater 31, wherein the heating temperature is adjusted to an appointed temperature selected in a range from 40 through 200°C by the temperature sensor 32 disposed in the heating area and the temperature controller 34. Activation light is irradiated onto the original plate, which is adjusted to the appointed temperature, as per image by an irradiation apparatus of the activation light irradiating section [5]5'.

Page 71, the last paragraph beginning on page 71 and ending on page 72 is amended as follows:

Fig. [4]3 shows the example, which shows a mode of as-per-image irradiation by a laser beam carrying image information. An activation light irradiating apparatus 5' (the portion of a depicting apparatus, excluding a heating device for heating an original plate to an appointed temperature, of the activation light irradiating section 5) of the activation light irradiation section includes a laser beam source 52 for emitting a laser beam 51 and irradiating it onto an original plate of the plate cylinder 1; and a laser beam source driving section 53, which drives the laser beam source 52, modulates the laser beam 51 and depicts an image on the original plate on the plate cylinder 1 on the basis of image signals S that are signalized from an image to be printed in an edition and layout workstation 54 and inputted into a recording section. The light source 52 is constructed so that it moves the emitted laser beam 51 relative to the plate cylinder 1 in the direction of the rotation axis of the plate cylinder 1 and scans the plate cylinder 1. By the rotation of the plate cylinder 1, and the surface of the plate cylinder 1 is exposed to the modulated laser beam 51, wherein the portions that are not irradiated by the laser beam 51 on the

surface of the original plate on the plate cylinder 1 are made into hydrophobic image area while the portions that are irradiated by the laser beam are made into hydrophilic non-imaged areas. That is, negative type depicting can be carried out.

Page 72, the paragraph beginning on page 72 and ending on page 73 is amended as follows:

The laser beam 51 has oscillation wavelengths in the ultraviolet zone, visible zone and near-infrared zone, which are modulated by image information. In the embodiment, a helium cadmium laser is incorporated, and the laser beam 51 is irradiated directly on the surface of the plate cylinder. The surface of the original plate that is adjusted to an appointed temperature by light reaction resulting from the irradiation of the activation light is made hydrophilic. It is recommended that the laser beam 51 width is 30μm, and the energy intensity is 10mW through 10W. Generally, it is preferable that the intensity is strong, wherein the irradiation will be completed in a shorter time in compliance with the intensity.

Page 73, the last paragraph beginning on page 73 and ending on page 74 is amended as follows:

Although the activation light irradiating section (5 in Fig. 2) includes an activation light irradiating apparatus 5' for irradiating activation light as per image, and a heating device for heating and adjusting the original plate temperature to an appointed temperature, there are several types of heating device. For example, a system for heating an original plate from the surface thereof as in the heating mode consisting of 31, 32 and 34 in Fig. [3]6, in which the heating device is connected to the hydrophobic processing section in view of heat economy, and

a system of radiation heating or contact heating type, in which the heating is enabled from the substrate side of an original plate, that is, by a heating device attached inside the plate cylinder to an appointed temperature, may be promptly selected. Fig. [5]4 and Fig. [6]5 show the modes thereof.

Page 74, the first full paragraph is amended as follows:

Fig. [5]4 is a view showing a mode of the activation light irradiating section that carries out irradiation of activation light while heating an original plate from the inside of the plate cylinder to an appointed temperature. In Fig. [5]4, a heating device 58 installed in the plate cylinder is a tungsten halogen lamp, wherein an original plate is heated to an appointed temperature by heat waves. On the other hand, the left half section of Fig. [5]4 shows the activation light irradiating apparatus 5', which includes a laser beam source 52 for emitting a laser beam to an original plate, which is kept on an appointed temperature, as per image; an edition/layout workstation 54 that signalizes image information to be printed, and inputs it into a recording section as an image signal S; and a laser beam driving section 53 for modulating the laser beam 51 and driving the laser beam source 52 based on the image signal S. The mechanism and actions of the activation light irradiation apparatus 5' are the same as described above.

Page 74, the last paragraph beginning on page 74 and ending on page 75 is amended as follows:

Fig. [6]5 is a view showing another mode of the activation light irradiating section that irradiates activation light while heating an original plate from the inside of the plate cylinder to

an appointed temperature. In Fig. [6]5, a heating device 59 incorporated in the plate cylinder includes a heater 591 and a heating roller 592 that is heated in contact with the heater 591 and heats an original plate P via the plate cylinder 1. The original plate is heated to an appointed temperature by contact heating from the heating roller to the plate cylinder 1 and heat supplied to the original plate by transmission. On the other hand, the left half section in Fig. 5 is an activation light irradiation apparatus 5', which is the same as described above.

Page 75, the last paragraph beginning on page 75 and ending on page 76 is amended as follows:

First, a hydrophobic layer of an organic compound vaporized by the heater 30 in the vaporizing chamber [27]26 in the organic compound substance supplying means 29 is given to the surface of an original plate on the plate cylinder 1, which passes through the hydrophobic processing section 2 while rotating, and the entire surface of the original plate is uniformly made ink-receivable. Subsequently, the temperature of the original plate is controlled in a range of the hydrophobic property generating temperature by the temperature controller section 34, and, upon receiving the irradiation of activation light, to which an as-per-image distribution is given via an image mask or is modulated by the image information in the activation light irradiating section [5]5', an image distribution having a hydrophilic property and a lipophilic property can be obtained, wherein the areas irradiated by the activation light are made hydrophilic while those not irradiated by the activation light are made lipophilic. When the irradiation of the activation light is completed, ink and a damping solution are next supplied to the plate cylinder 1 by the ink/damping solution supplying section 3. Thereby, ink is retained on lipophilic image areas of

the original plate (printing master plate) on the plate cylinder 1, and a damping solution is retained on hydrophilic non-imaged areas with no ink retained there.

Page 100, the last paragraph beginning on page 100 and ending on page 101 is amended as follows:

Fig. 7 is a view showing the construction of an offset printing press according to the third embodiment of the invention. The offset printing press shown in Fig. 7 is constructed so that the offset printing presses shown in Fig. [12]2 are used as four units 11Y, 11M, 11C and 11B that are arranged in series in the main body 12, wherein inks of Y(yellow), M(magenta), C(cyan) and B(black) are employed in the four units, respectively, to enable color printing.

Page 101, the last paragraph beginning on page 101 and ending on page 102 is amended as follows:

First, the surface of an original plate that passes through the hydrophobic processing section 2 is processed to be hydrophobic while causing the plate cylinder 1 to slowly rotate in the printing units 11Y, 11M, 11C and 11B. Since the structure of the hydrophobic processing section is described in Fig. [3]6, the description thereof is omitted herein. However, since the temperature of the heating atmosphere and the temperature of the vaporizing chamber, in the case where an organic compound is caused to exist, are controlled by the control section (34 in Fig. 3), the optimal conditions are selected in response to the availability of organic compounds, type of the organic compound, and type of a thermal response substance on the surface of the original plate. After the plate cylinders are caused to rotate at a speed at which the original plate passes with a sufficient time of heating and all the surface of the plate cylinders are processed to

be hydrophobic, the as-per-image irradiation is carried out in a state where the original plate is heated by the activation light irradiating section 5 with a heating device in Fig. 2, wherein depiction expressing the respective colors is carried out. And, inks of respective colors Y, M, C, and B are supplied from the respective ink/damping solution supplying sections of the respective printing units 11Y, 11M, 11C and 11B, wherein the inks and a damping solution are retained on the plate cylinders 1 of the respective printing units 11Y, 11M, 11C and 11B. After that, sheets of paper are fed as shown by the arrow B in Fig. 7, and inks of the respective printing units 11Y, 11M, 11C and 11B are transferred onto the sheets of paper. That is, ink Y is transferred in the printing unit 11Y, ink M is transferred in the printing unit 11M, ink C is transferred in the printing unit 11C, and ink B is transferred in the printing unit 11B, whereby a color image is printed on the sheets of paper by the negative-type system.

IN THE CLAIMS:

The claims are amended as follows:

13. (Once Amended) [An]A planographic printing press, comprising:

a mounting section [for mounting]which mounts an original printing plate having photo catalyst power;

a processing section [for]which hydrophobically [processing] processes the entire surface of said original plate on which a layer of a hydrophobic substance is provided;

an activation light irradiation section [for irradiating]which irradiates activation light one of on said original printing plate carrying the layer of said hydrophobic substance as per image and on the entire surface thereof;

[a heating section]means for heating said original plate during irradiating said activation light so that the temperature of the surface of said original plate becomes 40 through 200°C one of as per image and on the entire surface thereof, so that a hydrophobic area and a hydrophilic area are formed on said original plate;

a section [for supplying an]which supplies ink to said hydrophobic area and [for supplying]which supplies a damping solution to said hydrophilic area; and

a printing section [for printing]which prints by bringing a printing surface, on which said hydrophobic area accepts the ink and said hydrophilic area accepts the damping solution, into contact with a surface to be printed.

14. (Once Amended) The planographic printing press according to Claim 13, wherein said heating [section]means includes a heating device for heating said original printing plate by irradiating light for maintaining the surface of said original printing plate at a predetermined temperature [during irradiating said activation light].

15. (Once Amended) The planographic printing press according to Claim 13, wherein said heating [section]means includes a heating device for heating said original printing plate by electric heating for maintaining the surface of said original printing plate at a predetermined temperature [during irradiating said activation light].

Claims 16-25 are added as new claims.